



Aviation Encroachment



Maj. Gen. Patrick Doherty

Commander

19th Air Force

Air Education and Training Command

Col. Lendy Renegar

Vice Commander

80th Flying Training Wing

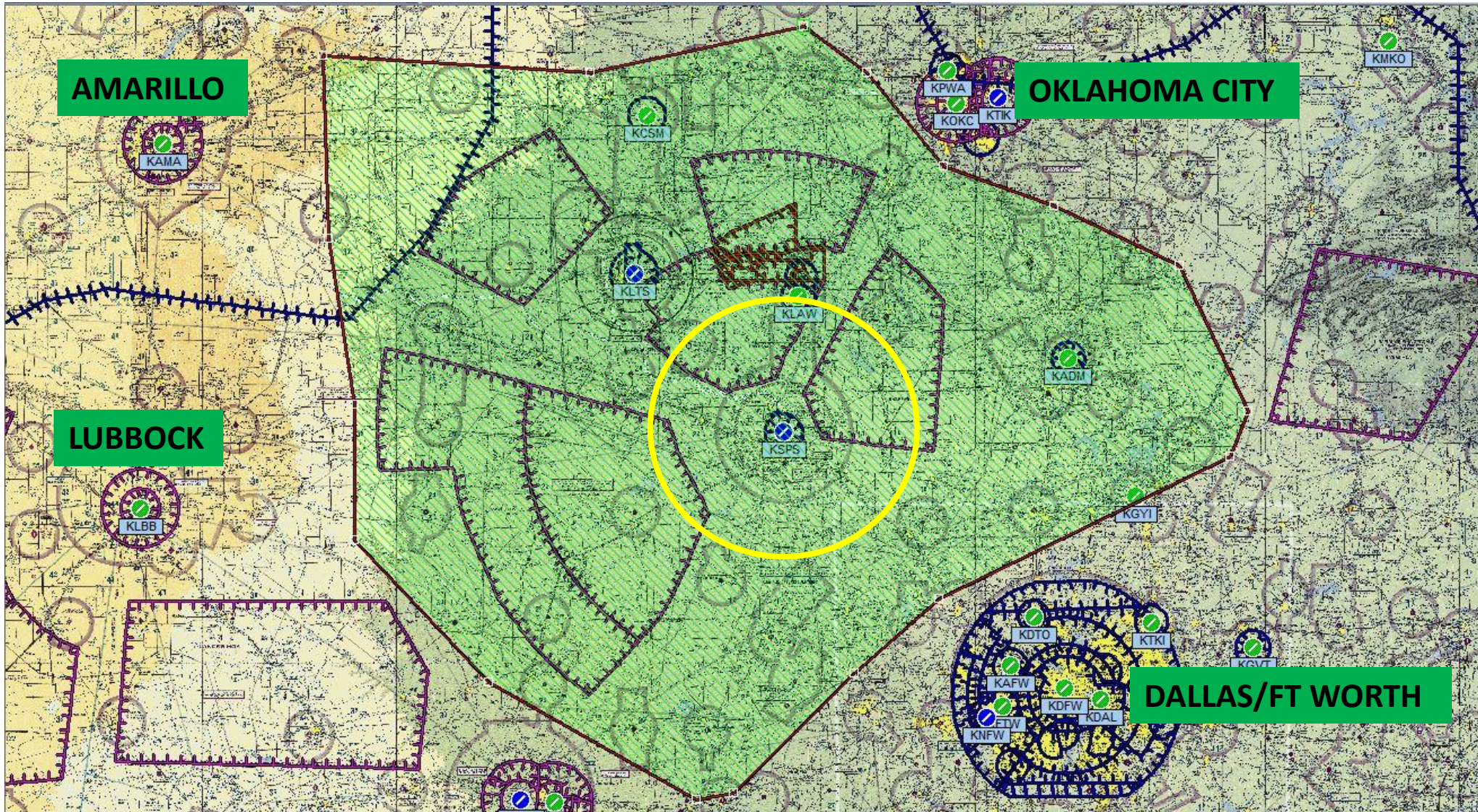
Sheppard AFB



Overview

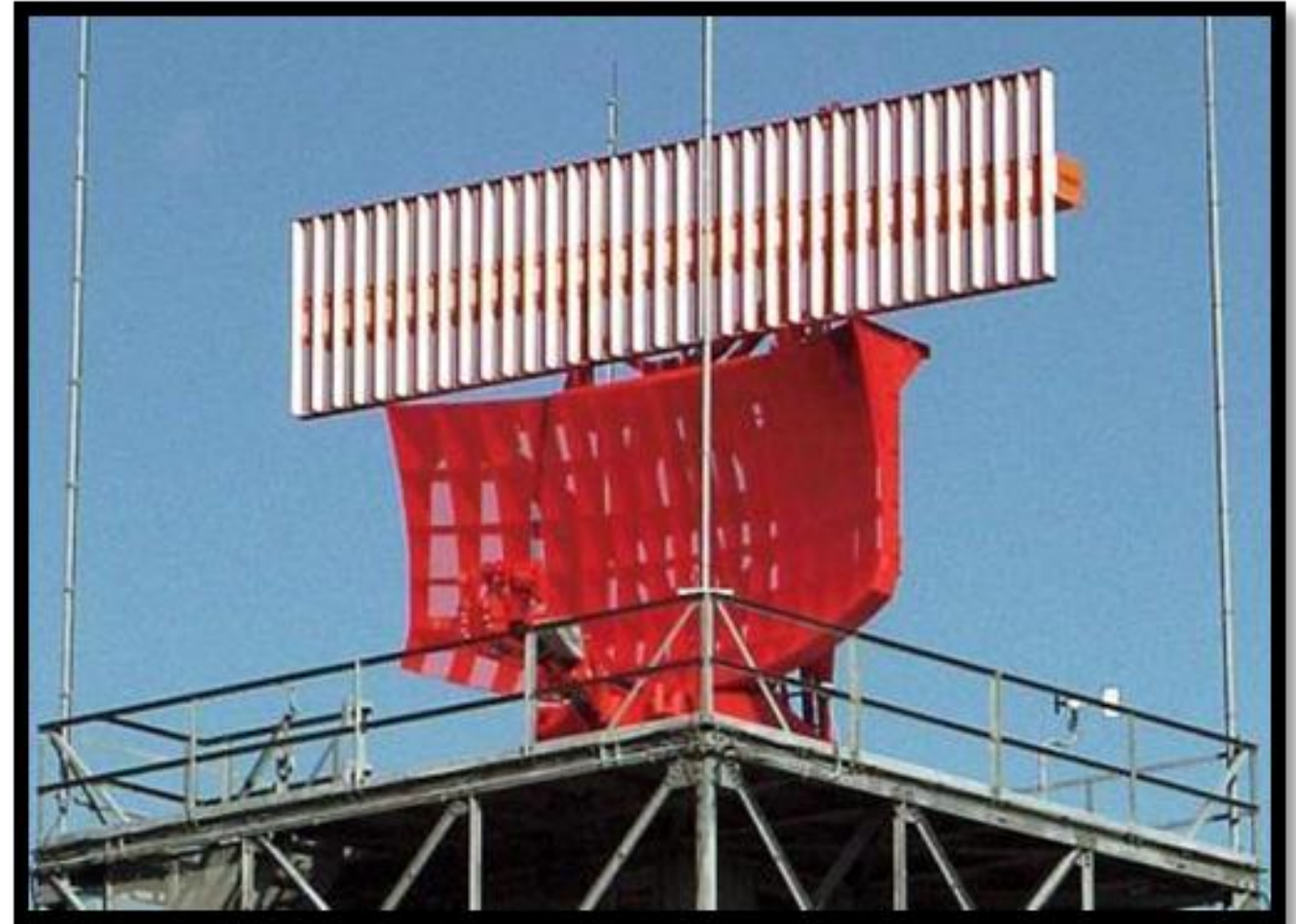
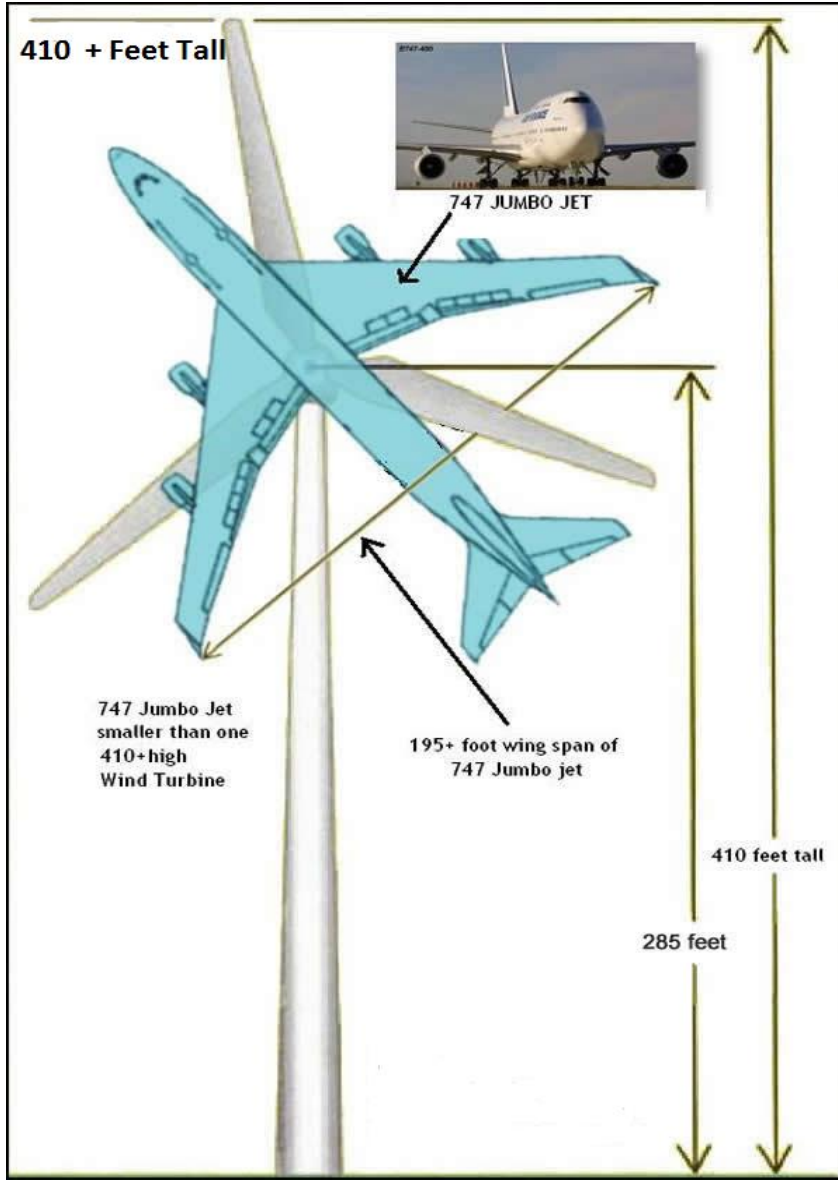


- Concerns
- Significance
- Federal Process
- Recent Legislation
- Way Forward



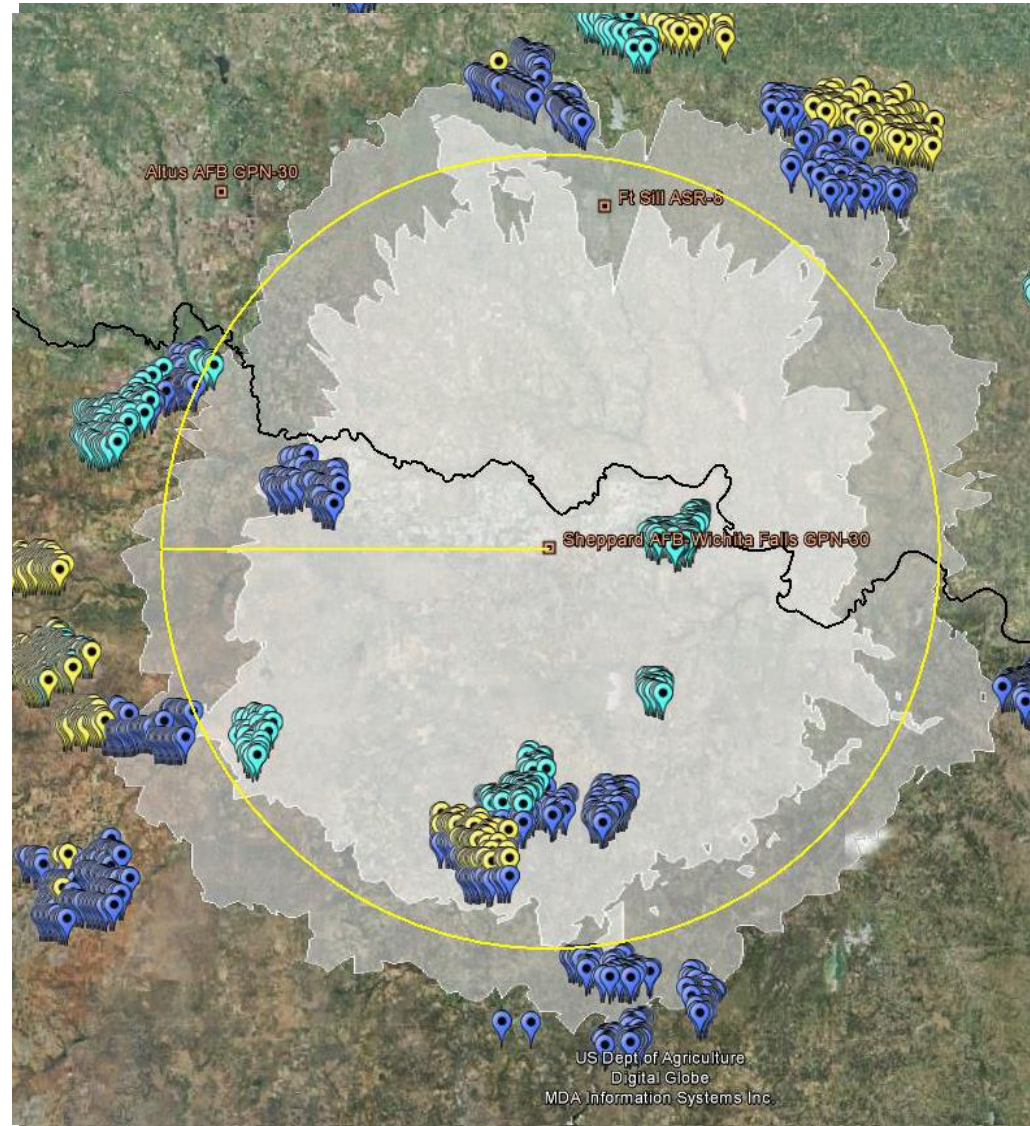


Approach Radar





Approach Radar: Sheppard AFB



**EXISTING TURBINES IN
LINE OF SIGHT: 513**

**PENDING TURBINES IN
LINE OF SIGHT: 90**

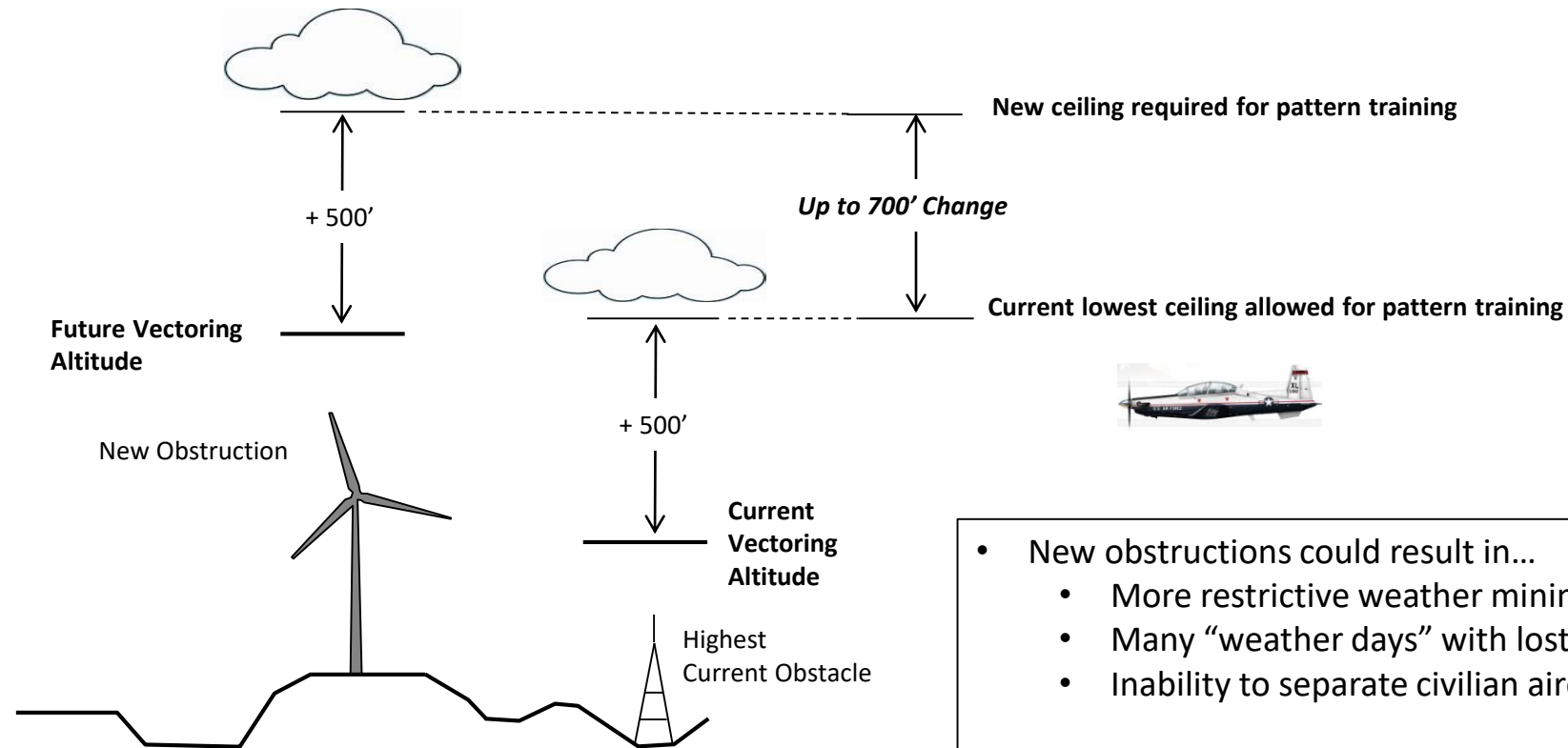
**PROPOSED TURBINES
IN LINE OF SIGHT: 505**

TOTAL: 1108



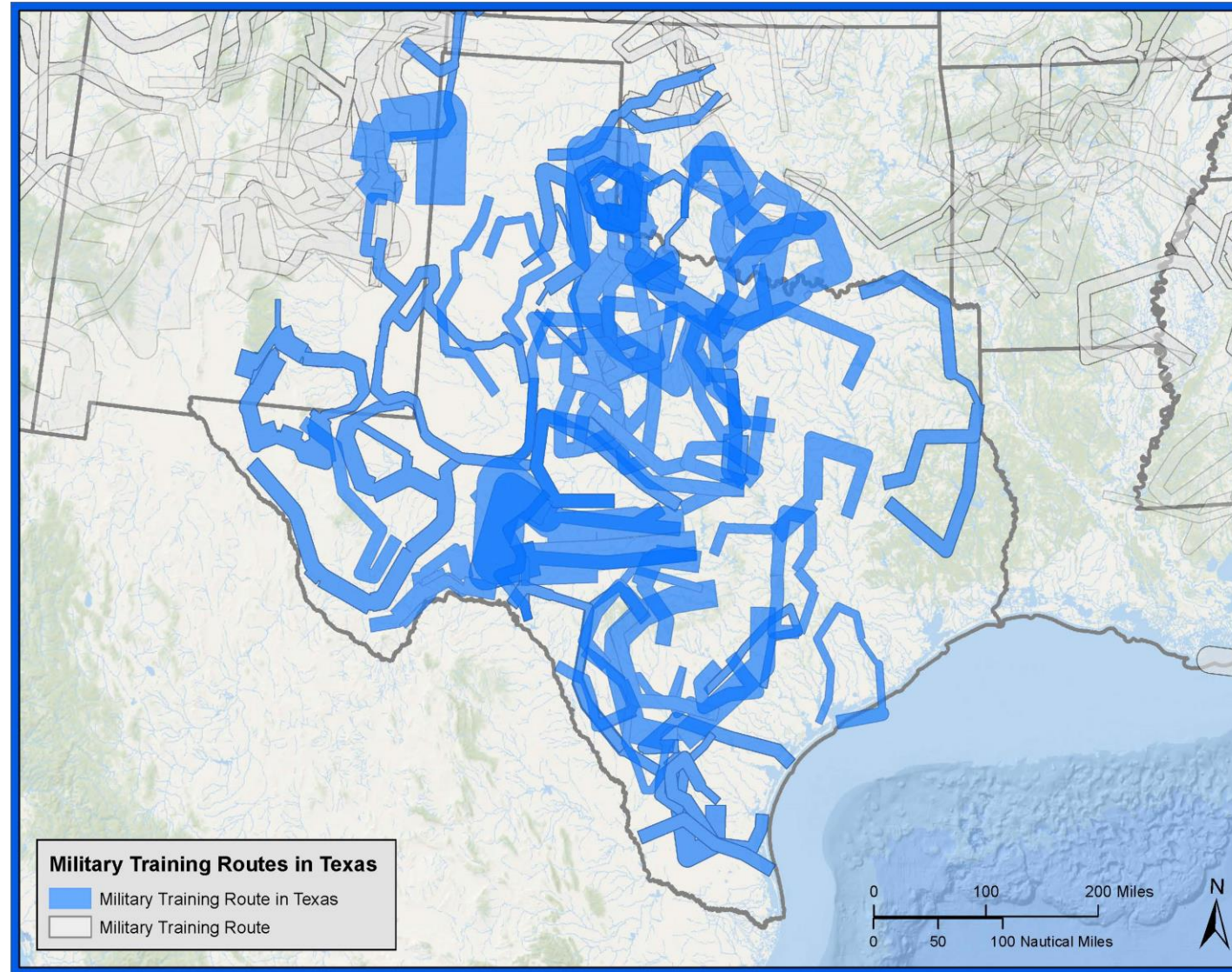
Vectoring Altitude Changes

Wind turbines could raise vectoring altitudes and weather requirements significantly



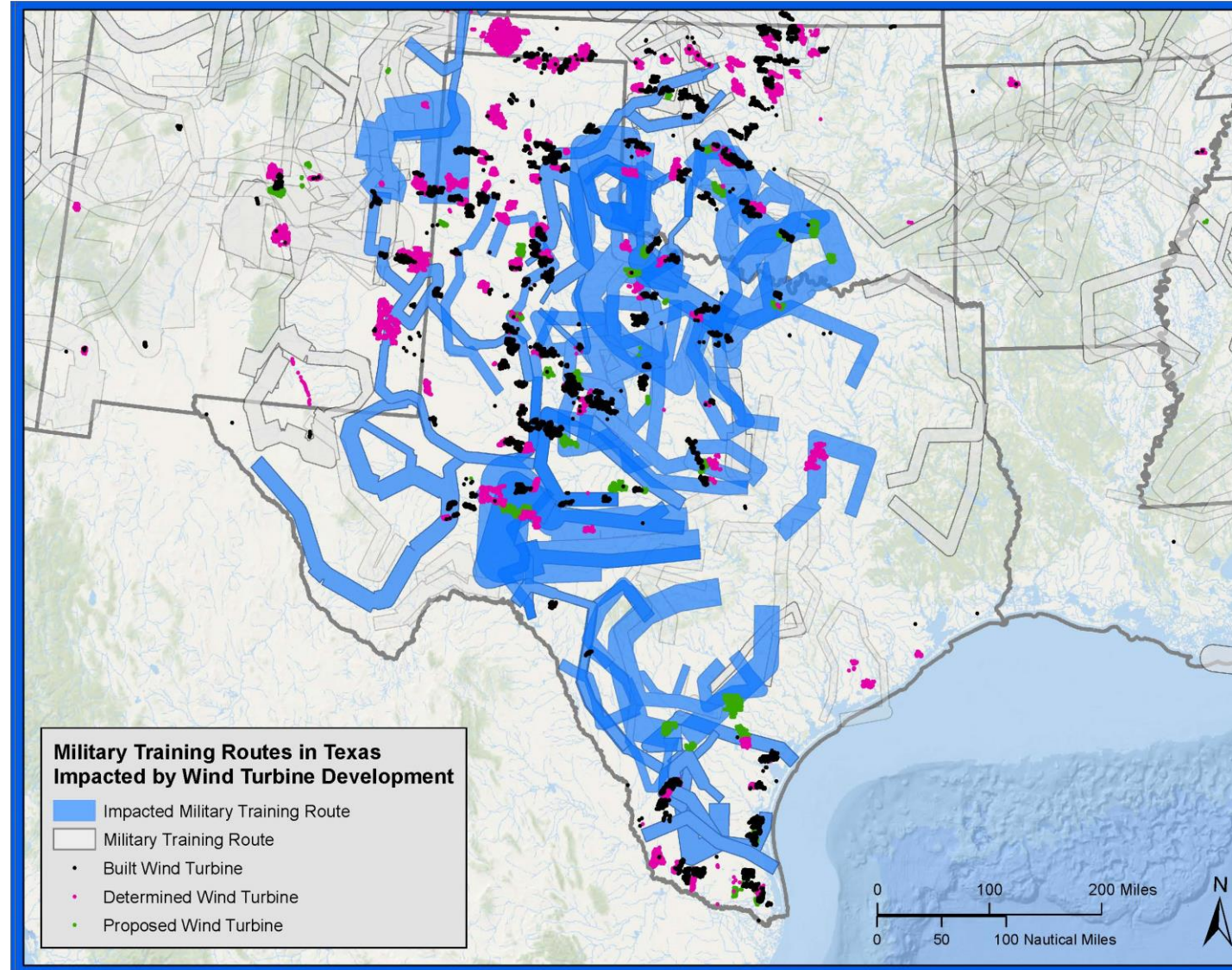


Military Training Routes (MTRs)





Military Training Routes (MTRs)



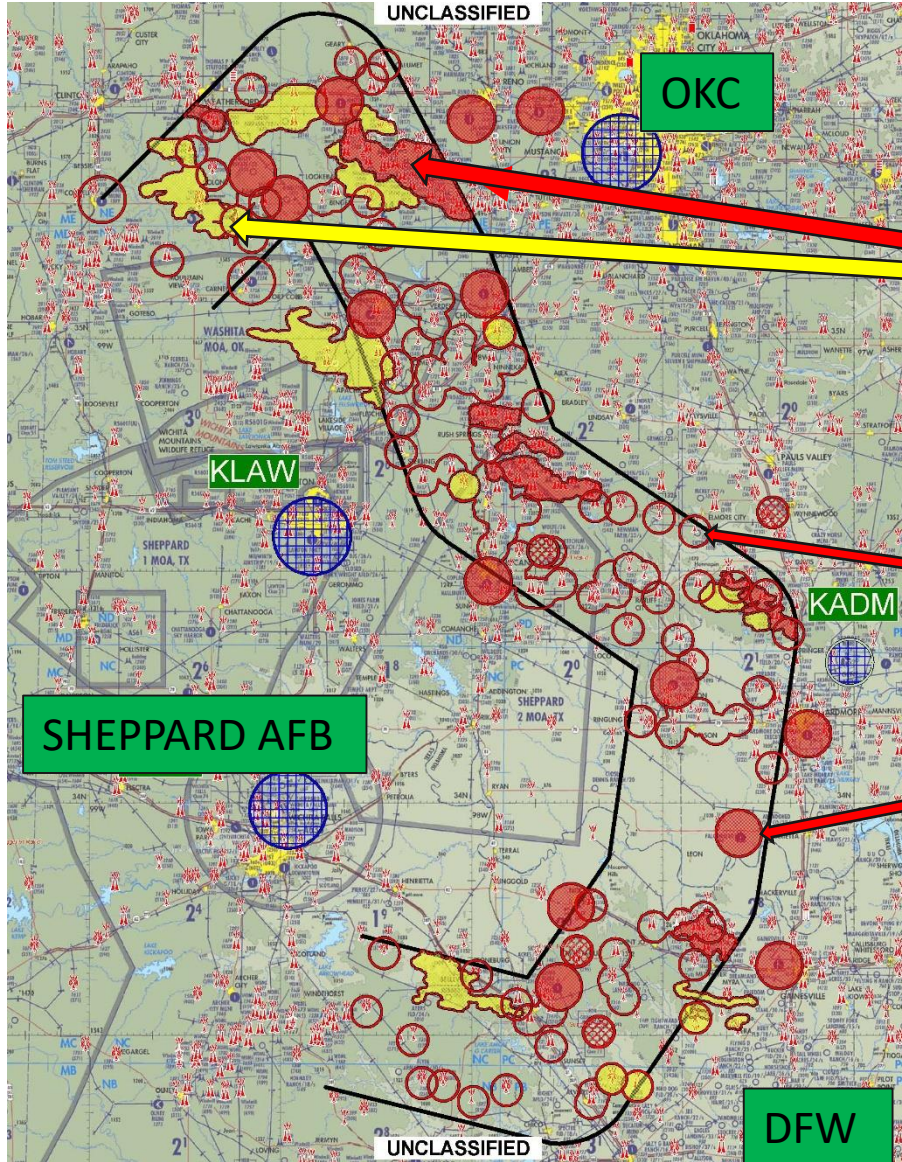
TEXAS MTRs:
116

**MTRs Impacted by
EXISTING Projects:**
76

**MTRs Impacted by
EXISTING and
FUTURE Projects:**
91



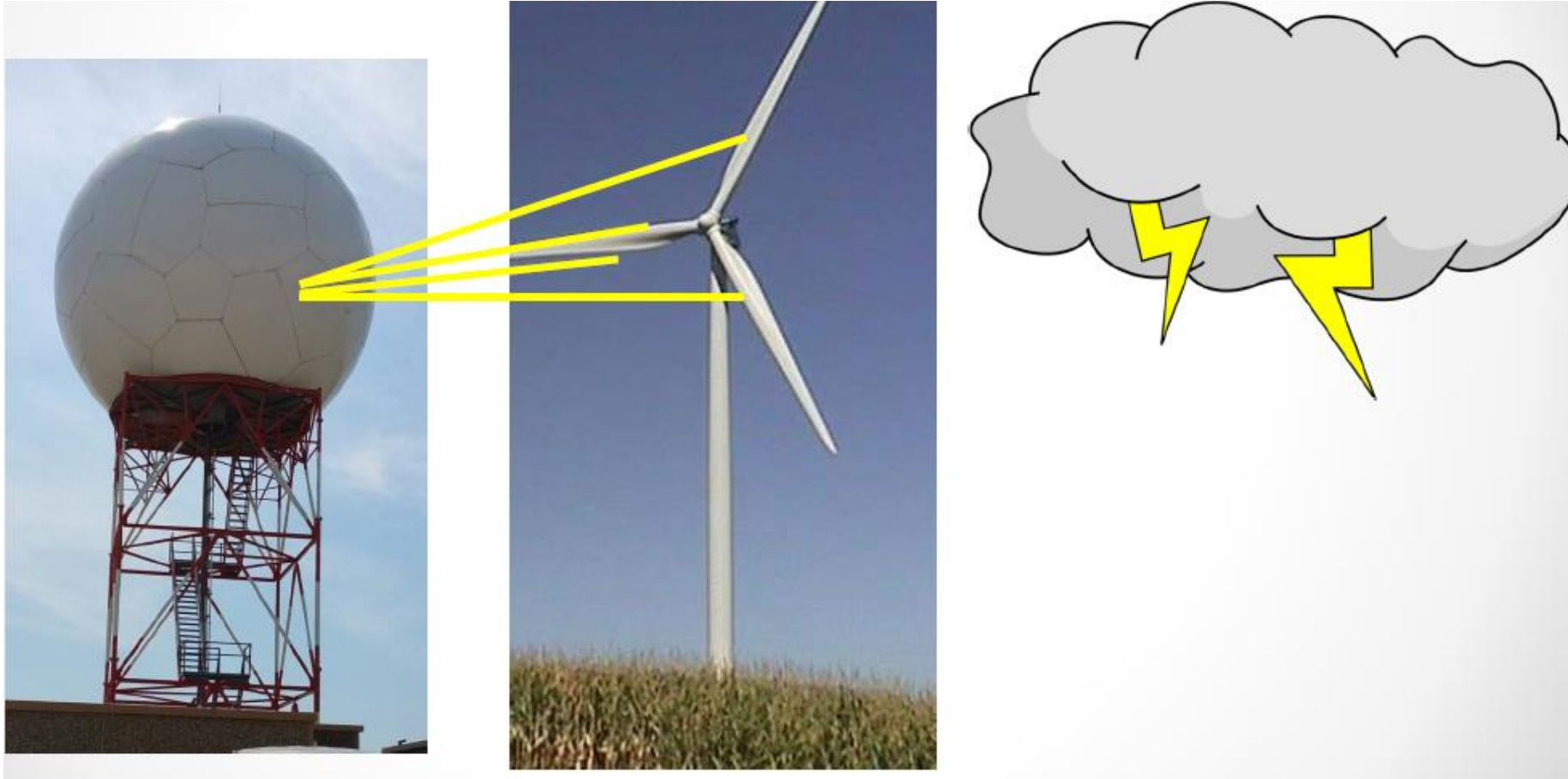
MTRs: “Death by a Thousand Cuts”



- Actual T-38 navigation chart
- Irregular shaded area = wind farm
 - Red = existing
 - Yellow = planned
- Open red circle = tower
- Shaded red circle = airport, noise avoid, etc.



Weather Radar



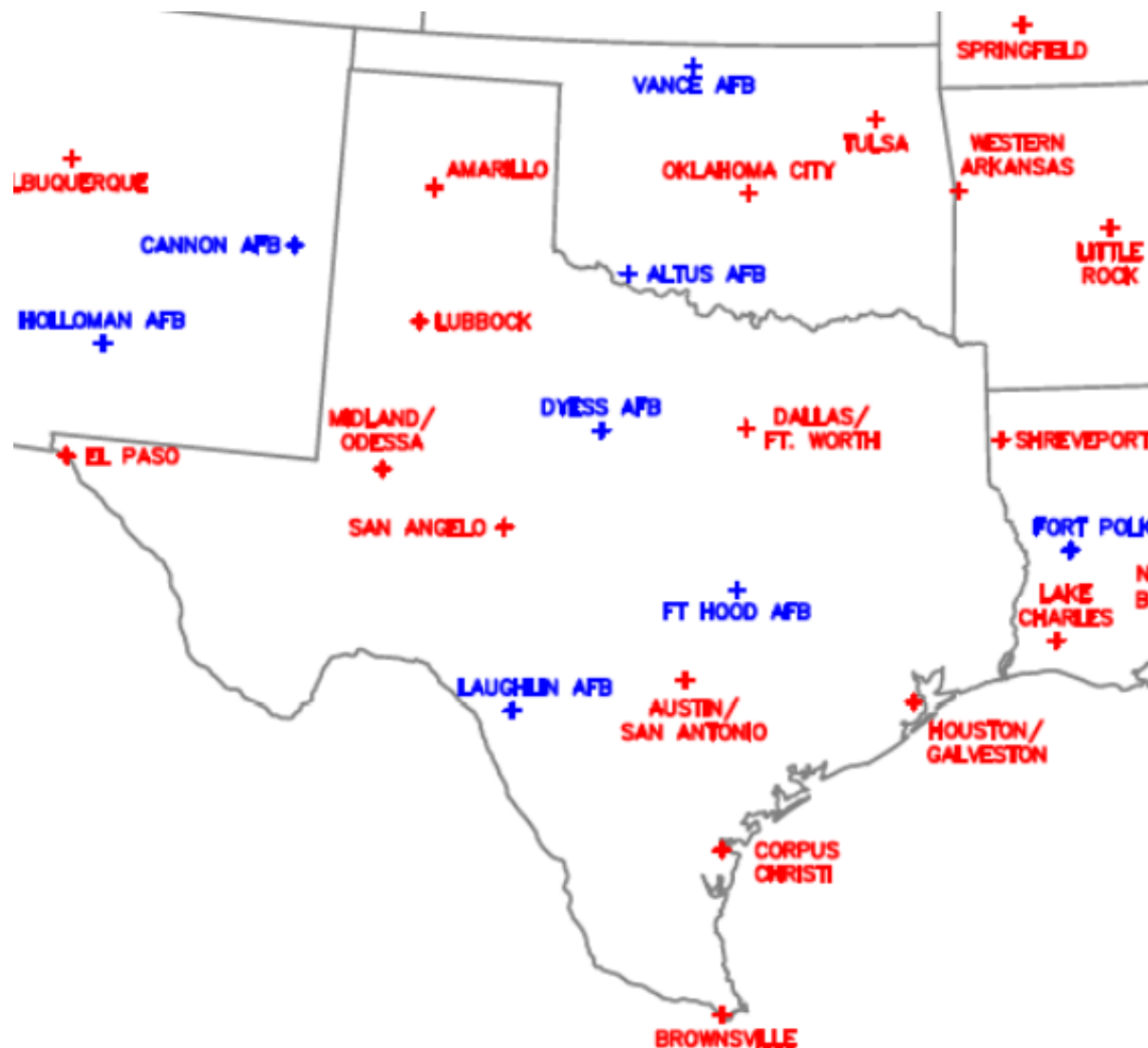


Weather Radar: Texas Coverage



+ NWS SITE

+ DoD SITE

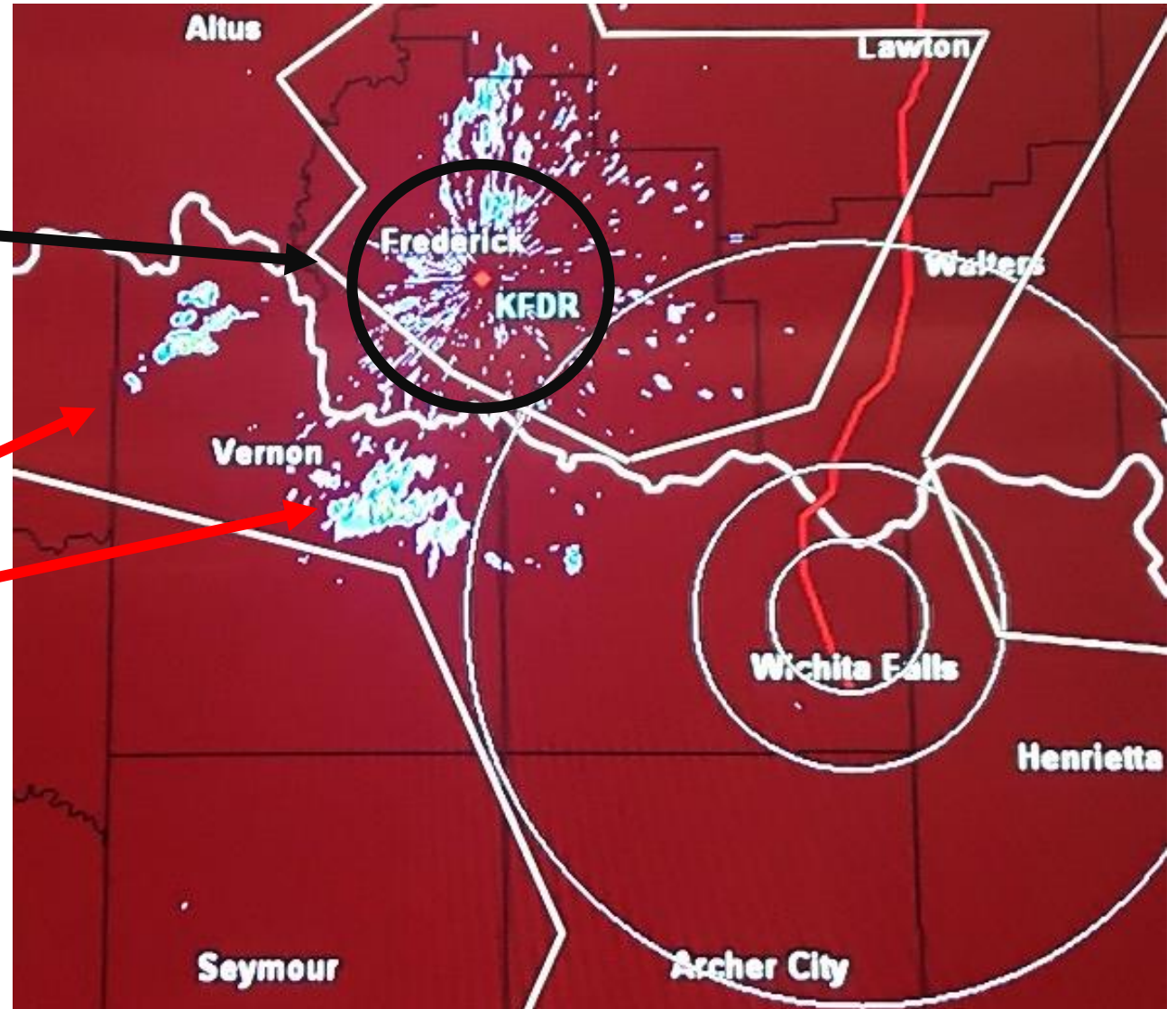




Weather Radar: Local Impact



**NEXRAD weather radar
Frederick, OK**



**Wind turbines creating
false weather returns
Vernon, TX**



Significance: Safety, Quality



- Safety: for military aviators, civil aviators, and general public
- Quality: encumbered MTRs significantly degrade training quality for students



Significance: Quantity



- Texas:
 - ~1/2 of the pilots for USAF, including 2/3 of fighter pilots
 - 100% of Pilot Instructor Training (PIT)
- Texas: key player for NATO alliance and others
 - Sheppard AFB trains 100% of fighter pilots from Belgium, Denmark, Germany, the Netherlands & Norway



Significance: Time & Money



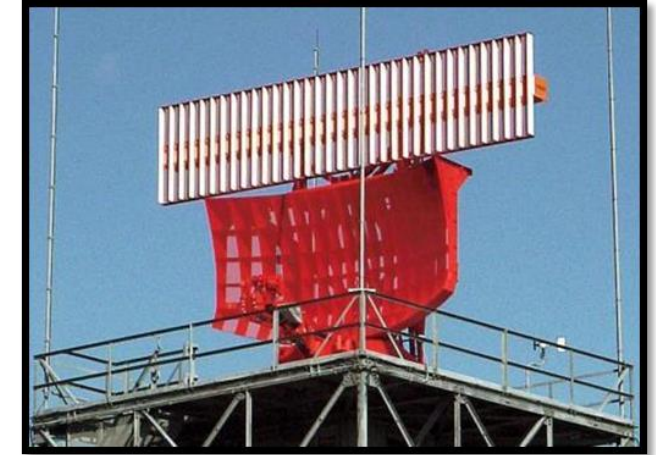
- Airspace: NOT a renewable resource!
 - Future route closures possible
- Re-routing MTRs?
 - 2 years and \$X00,000-millions for new low-level...maybe
 - Future WT proposals
- Installations now spending thousands of man-hours to preserve airspace resources



Obstacle Evaluation Process



- **Two Processes:**
 - **FAA's Obstacle Evaluation/Airport Airspace Analysis (OE/AAA) Process**
 - Aeronautical studies determine effect on Air Navigation Facilities and Airspace
 - **DoD Siting Clearinghouse for Energy projects**
 - 1) Initial review of a project
 - Base works with developer to attempt to resolve conflict
 - 2) Base determines if the project to present an **"unacceptable risk to national security"**
 - A Mitigation Response Team then investigates mitigation options
 - 3) If mitigation fails, then Deputy Secretary of Defense makes the final determination



Federal government does not have land use authority



Recent Legislation



- **Texas State Legislation (Effective 1 Sep 17)**

- SB 277 prohibits the use of property tax abatements for wind energy devices that are located 25nm or less from the boundaries of military aviation installations.

- **National Defense Authorization Act (NDAA)**

- FY18: Defines “unacceptable risk to the national security of the United States” to include structures that will “impair or degrade the capability of the DoD to conduct training...to maintain military readiness.”
- FY19: Directed DoD, FAA, NOAA to determine how to solve weather radar mitigation



Lessons Learned



- **Early notification is key!**
 - Enables developer and installation to work together...before \$Ms are spent
- **Remain engaged -- educate legislative leaders and the public**
 - ID mission sustainment requirements using substantiated, factual data
- **Studies can be useful tools, however...**
 - Recommendations must include robust, effective mitigation steps based on fair and accurate assessment of problem/conflict
- **In some cases, development/siting may be incompatible with mission requirements**
 - Developers paying for solutions
- **Need for dedicated “Mission Sustainment” positions**



Aviation Encroachment

